We claim:

1. A compound of the formula I

wherein

R1, R2 are, independently of each other, hydrogen, F, Cl, Br, I, OH, NO₂, CN, COOH, CO(C_1 - C_6)-alkyl, COO(C_1 - C_6)-alkyl, CONH₂, CONH(C_1 - C_6)-alkyl, CON[(C_1 - C_6)-alkyl]₂, (C_1 - C_6)-alkyl, (C_2 - C_6)-alkynyl, (C_1 - C_6)-alkoxy, HO-(C_1 - C_8)-alkyl, (C_1 - C_6)-alkoxy-(C_1 - C_6)-alkyl, phenyl, benzyl, or (C_1 - C_4)-alkylcarbonyl,

wherein one, more than one or all hydrogens in the alkyl or alkoxy radicals are optionally replaced by fluorine; SO₂-NH₂, SO₂NH(C₁-C₆)-alkyl, SO₂N[(C₁-C₆)-alkyl]₂, S-(C₁-C₆)-alkyl, S-(CH₂)₀-phenyl, SO-(C₁-C₆)-alkyl, SO-(CH₂)₀-phenyl, SO₂-(C₁-C₆)-alkyl, or SO₂-(CH₂)₀-phenyl,

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wherein o is 0-6 and wherein the phenyl radical is optionally substituted up to twice, each substituent chosen independently from F, Cl, Br, OH, CF₃, NO₂, CN, OCF₃, (C₁-C₆)-alkoxy, (C₁-C₆)-alkyl, and NH₂;

NH₂, NH-(C₁-C₆)-alkyl, N((C₁-C₆)-alkyl)₂, NH(C₁-C₇)-acyl, phenyl, or O-(CH₂)₀-phenyl,

wherein o is 0-6 and wherein the phenyl ring is optionally substituted one to 3 times, each substituent chosen independently from F, Cl, Br, I, OH, CF₃, NO₂, CN, OCF₃, (C₁-C₆)-alkoxy, (C₁-C₆)-alkyl, NH₂, NH(C₁-C₆)-alkyl, N((C₁-C₆)-alkyl)₂, SO₂-CH₃, COOH, COO-(C₁-C₆)-alkyl, and CONH₂;

- is (C_0-C_{15}) -alkanediyl, wherein one or more carbon atoms in the alkanediyl radical are optionally replaced, independently of one another, by -O-, -(C=O)-, -CH=CH-, -C \equiv C-, -S-, -CH(OH)-, -CHF-, -CF₂-, -(S=O)-, -(SO₂)-, -N((C₁-C₆)-alkyl)-, -N((C₁-C₆)-alkylphenyl)-or -NH-;
- n is a number from 0 to 4;
- Cyc1 is a 3- to 7-membered, saturated, partially saturated or unsaturated ring, wherein 1 carbon atom is optionally replaced by O or S;
- R3, R4, R5 are, independently of each other, hydrogen, F, Cl, Br, I, OH, NO₂, CN, COOH, COO(C₁-C₆)-alkyl, CO(C₁-C₄)-alkyl, CONH₂,

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$$\begin{split} &\text{CONH}(C_1\text{-}C_6)\text{-alkyl}, \ \text{CON}[(C_1\text{-}C_6)\text{-alkyl}]_2, \ (C_1\text{-}C_8)\text{-alkyl}, \ (C_2\text{-}C_6)\text{-alkynyl}, \ (C_1\text{-}C_{12})\text{-alkoxy}, \ \text{HO-}(C_1\text{-}C_6)\text{-alkyl}, \ \text{or} \\ &\text{(C_1\text{-}C_6)\text{-alkoxy-}(C_1\text{-}C_6)\text{-alkyl},} \end{split}$$

wherein one, more than one or all hydrogens in the alkyl and alkoxy radicals are optionally replaced by fluorine;

 SO_2 -NH₂, SO_2 NH(C₁-C₆)-alkyl, SO_2 N[(C₁-C₆)-alkyl]₂, S-(C₁-C₆)-alkyl, S-(CH₂)₀-phenyl, SO₂-(CH₂)₀-phenyl, SO₂-(CH₂)₀-phenyl,

wherein o is 0-6 and wherein the phenyl radical is optionally substituted up to twice, each substituent chosen independently from F, Cl, Br, OH, CF₃, NO₂, CN, OCF₃, (C₁-C₆)-alkoxy, (C₁-C₆)-alkyl, and NH₂;

NH₂, NH-(C₁-C₆)-alkyl, N((C₁-C₆)-alkyl)₂, NH(C₁-C₇)-acyl, phenyl, (CH₂)₀-phenyl, O-(CH₂)₀-phenyl,

wherein o is 0-6 and wherein the phenyl ring is optionally substituted one to 3 times, each substituent chosen independently from F, Cl, Br, I, OH, CF₃, NO₂, CN, OCF₃, (C₁-C₈)-alkoxy, (C₁-C₆)-alkyl, NH₂, NH(C₁-C₆)-alkyl, N((C₁-C₆)-alkyl)₂, SO₂-CH₃, COOH, COO-(C₁-C₆)-alkyl, and CONH₂;

or

R3 and R4 together with the carbon atoms carrying them are a 5- to 7-membered, saturated, partially or completely unsaturated ring Cyc2,

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wherein 1 or 2 carbon atoms in the ring are optionally replaced by N, O or S, and wherein Cyc2 is optionally substituted by (C₁-C₆)-alkyl, (C₂-C₅)-alkenyl, (C₂-C₅)-alkynyl,

wherein, in each substituent of Cyc2, one CH₂ group is optionally replaced by O, or substituted by H, F, Cl, OH, CF₃, NO₂, CN, COO(C₁-C₄)-alkyl, CONH₂, CONH(C₁-C₄)-alkyl, or OCF₃, and

R5 is hydrogen;

or a pharmaceutically acceptable salt thereof.

- 2. A compound as claimed in claim 1, wherein A is linked to the thienyl ring in position 2.
- 3. A compound as claimed in claim 1, wherein
 - R1, R2 are, independently of each other, hydrogen, F, Cl, Br, I, OH, NO₂, CN, COOH, CO(C_1 - C_6)-alkyl, COO(C_1 - C_6)-alkyl, CONH₂, CONH(C_1 - C_6)-alkyl, CON[(C_1 - C_6)-alkyl]₂, (C_1 - C_8)-alkyl, (C_2 - C_6)-alkynyl, (C_1 - C_6)-alkoxy, HO-(C_1 - C_6)-alkyl, (C_1 - C_6)-alkoxy-(C_1 - C_6)-alkyl, phenyl, benzyl, (C_1 - C_4)-alkylcarbonyl, or SO-(C_1 - C_6)-alkyl,

wherein one, more than one or all hydrogens in the alkyl or alkoxy radicals are optionally replaced by fluorine;

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is (C_0-C_{15}) -alkanediyl, wherein one or more carbon atoms in the alkanediyl radical are optionally replaced, independently of one another, by -O-, -(C=O)-, -CH=CH-, -C \equiv C-, -S-, -CH(OH)-, -CHF-, -CF₂-, -(S=O)-, -(SO₂)-, -N((C₁-C₆)-alkyl)-, -N((C₁-C₆)-alkylphenyl)-or -NH-;

n is a number 2 or 3;

Cyc1 is a 5- to 6-membered, saturated, partially saturated or unsaturated ring, wherein 1 carbon atom is optionally replaced by O or S;

R3, R4, R5 are, independently of each other, hydrogen, F, CI, Br, I, OH, NO₂, CN, COOH, COO(C₁-C₆)-alkyl, CO(C₁-C₄)-alkyl, CONH₂, CONH(C₁-C₆)-alkyl, CON[(C₁-C₆)-alkyl]₂, (C₁-C₈)-alkyl, (C₂-C₆)-alkenyl, (C₂-C₆)-alkynyl, (C₁-C₁₂)-alkoxy, HO-(C₁-C₆)-alkyl, (C₁-C₆)-alkyl, (C₁-C₆)-alkyl, (C₁-C₄)-alkylphenyl, (C₁-C₄)-alkoxyphenyl, S-(C₁-C₆)-alkyl, or SO-(C₁-C₆)-alkyl, wherein one, more than one or all hydrogens in the alkyl or alkoxy radicals are optionally replaced by fluorine;

or

R3 and R4 together with the carbon atoms carrying them are a 5- to 7-membered, saturated, partially or completely unsaturated ring Cyc2,

wherein 1 or 2 carbon atoms in the ring are optionally replaced by N, O or S, and wherein Cyc2 is optionally substituted by (C_1-C_6) -alkyl, (C_2-C_5) -alkenyl, or (C_2-C_5) -alkynyl,

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wherein in each substituent of Cyc2, one CH₂ group is optionally replaced by O, or substituted by H, F, Cl, OH, CF₃, NO₂, CN, COO(C₁-C₄)-alkyl, CONH₂, CONH(C₁-C₄)-alkyl, or OCF₃, and

R5 is hydrogen.

- 4. A compound as claimed in claim 1, wherein
 - are, independently of each other, hydrogen, (C₁-C₆)-alkyl, (C₁-C₄)-alkoxy, HO-(C₁-C₄)-alkyl, (C₁-C₄)-alkoxy-(C₁-C₄)-alkyl, F, Cl, CF₃, OCF₃, OCH₂CF₃ (C₁-C₄)-alkyl-CF₂-, phenyl, benzyl, (C₁-C₄)-alkylcarbonyl, (C₂-C₄)-alkenyl, (C₂-C₄)-alkynyl, or COO(C₁-C₄)-alkyl;
 - A is -CH=CH-CH₂- or (C₁-C₄)-alkanediyl,

 wherein one or two CH₂ groups are optionally replaced by
 (C=O)-, -CH=CH-, -CH(OH)-, -NH-, -CHF-, -CF₂-, or -O-;
 - n is a number 2 or 3;
 - Cyc1 is unsaturated ring, wherein 1 carbon atom is optionally replaced by O or S;
 - R3, R4, R5 are, independently of each other, hydrogen, F, Cl, Br, I, NO₂, OH, CN, (C₁-C₆)-alkyl, (C₁-C₈)-alkoxy, OCF₃, OCH₂CF₃, S-(C₁-C₄)-

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alkyl, COOH, HO-(
$$C_1$$
- C_4)-alkyl, (C_1 - C_4)-alkoxy-(C_1 - C_4)-alkyl, (C_1 - C_2)-alkylphenyl, or (C_1 - C_2)-alkoxyphenyl, or

R3 and R4 together are -CH=CH-O-, -CH=CH-S-, -O-(CH₂)_p-O-, -O-CF₂-O-, or -CH=CH-CH=CH-, wherein
$$p=1$$
 or 2, and

R5 is hydrogen.

- 5. A compound as claimed in claim 1, wherein R2 is hydrogen.
- 6. A compound as claimed in claim 1, wherein

A is
$$-CH_2$$
-, $-C_2H_4$ -, $-C_3H_6$, $-CH(OH)$ -, $-(C=O)$ -, $-CH=CH$ -, $-CH=CH-CH_2$ -, $-CO-CH_2$ - $-CH_2$ - or $-CO-NH-CH_2$ -;

n is a number 2 or 3;

Cyc1 is unsaturated ring, wherein 1 carbon atom is optionally replaced by S;

R3,R4,R5 are, independently of each other, hydrogen, F, Cl, I, NO₂, OH, CN, (C₁-C₆)-alkyl, (C₁-C₈)-alkoxy, O-CH₂-phenyl, OCF₃, S-CH₃, or COOH or

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R3 and R4 together are -CH=CH-O-, -O-(CH₂) $_p$ -O-, -O-CF₂-O-, -CH=CH-CH-CH-, wherein p = 1 or 2, and

R5 is hydrogen.

- 7. A compound as claimed in claim 1, wherein
 - A is $-CH_2$ or $-CH_2$ - $-CH_2$ -.
- A compound as claimed in claim 1, wherein
 Cyc1 is phenyl.
- A compound as claimed in claim 1, wherein
 Cyc1 is thienyl.
- A compound as claimed in claim 1, wherein
 Cyc1 is monosubstituted.
- 11. A medicament comprising at least one compound as claimed in claim 1.
- 12. A medicament comprising at least one compound as claimed in claim 1 and at least one more blood glucose-lowering active ingredient.
- 13. A method for treating type 1 or type 2 diabetes, comprising administering to a patient in need thereof an effective amount of at least one compound as claimed in claim 1.
- 14. A method for lowering blood glucose, comprising administering to a patient in need thereof an effective amount of at least one compound as claimed in claim 1.

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- 15. A method for treating type 1 or type 2 diabetes, comprising administering to a patient in need thereof an effective amount of at least one compound as claimed in claim 1 and at least one other active ingredient, wherein the at least one other active ingredient is effective for lowering blood glucose.
- 16. A method for lowering blood glucose, comprising administering to a patient in need thereof an effective amount of at least one compound as claimed in claim 1 and at least one other active ingredient, wherein the at least one other active ingredient is effective for lowering blood glucose.
- 17. A process for producing a medicament comprising at least one compound as claimed in claim 1, comprising: mixing the at least one compound as claimed in claim 1 with a pharmaceutically suitable carrier, and converting this mixture into a form suitable for administration.

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